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Peregrine Falcon

Falco peregrinu

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GENERAL RANGE AND WASHINGTON DISTRIBUTION

Peregrine falcons occur nearly worldwide. In Washington, nesting may occur in all but the driest parts of the state (see Figure 1). Naturally occurring breeding sites are verified along the outer coast, in the San Juan Islands, and in the Columbia Gorge. Young birds have been introduced in unoccupied historical habitat in Skamania, Lewis, Spokane, Asotin, and Yakima counties.

RATIONALE

The peregrine falcon is a State Endangered species. Peregrine falcon populations have increased in Washington since chlorinated hydrocarbon pesticides were banned in the United States, and through the success of reintroduction programs. Their numbers and distribution are still limited however, due primarily to the lingering effects of pesticides and the lack of suitable nesting sites. Nest sites need to be in close proximity to adequate food sources and free from human disturbance.

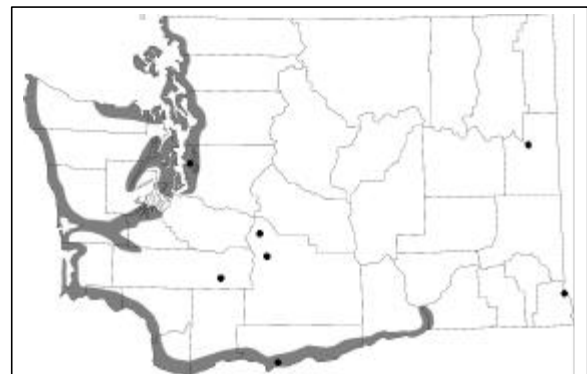


Figure 1. Washington distribution of the peregrine falcon, *Falco peregrinus*. Dark shading indicates breeding areas. Light shading indicates wintering areas. Map derived from Washington Department of Fish and Wildlife data files.

HABITAT REQUIREMENTS

Peregrine falcons usually nest on cliffs, typically 45 m (150 ft) or more in height. They will also nest on off-shore islands and ledges on vegetated slopes. Eggs are laid and young are reared in small caves or on ledges. Nest sites are generally near water. The birds are sensitive to disturbance during all phases of the nesting season (1 March through 30 June) (Pacific Coast American Peregrine Falcon Recovery Team 1982, Towry 1987). Disturbance can cause desertion of eggs or young, and later in the breeding season can cause older nestlings to fledge prematurely.

Peregrines feed on a variety of smaller birds that are usually captured on-the-wing. Hunting territories may extend to a radius of 19-24 km (12-15 mi) from nest sites (Towry 1987).

In winter and fall, peregrines spend much of their time foraging in areas with large shorebird or waterfowl concentrations, especially in coastal areas (Dekker 1995). At least 3 western Washington areas support significant numbers of winter resident peregrines annually: the Samish Flats, Grays Harbor, and the Sequim area (Dobler 1989).

LIMITING FACTORS

Peregrine falcon populations declined worldwide as a result of sublethal doses of chlorinated hydrocarbon pesticides, especially DDT and dieldrin. Chemical contamination of the prey base resulted in reduced eggshell thickness, and consequently poor hatching success and survival of young peregrines (Snow 1972). Although these chemicals are now banned in the United States, eggshell thinning and other effects of pesticide contamination are still seen in some peregrine pairs (Peakall and Kiff 1988). Contamination probably results from consuming prey species that winter in countries that continue to use DDT and other organochlorine pesticides, from persistent pesticide residue remaining at the breeding grounds, or from current, illegal use of these chemicals in the United States (Henny et al. 1982, Stone and Okoniewski 1988).

Additionally, peregrines may be limited in some parts of their range by availability of nesting sites in proximity to an adequate food source.

MANAGEMENT RECOMMENDATIONS

Breeding peregrine falcons are most likely to be disturbed by activities taking place above their nest (eyrie) (Herbert and Herbert 1969, Ellis 1982). Ellis (1982) recommended buffer zones of "no human activity" around peregrine falcon breeding sites in Arizona that ranged from 0.8 km to 4.8 km (0.5-3.0 mi), with wider buffer zones recommended for activities above the breeding cliff. These buffer distances were based on incidental observations of peregrine responses to various disturbances. In Washington, buffer zones of 4.8 km (3.0 mi) may not be necessary. However, human access along the cliff rim should be restricted within 0.8 km (0.5 mi) of the nest from March through the end of June (F. Dobler, personal communication). Human activities on the face of, or immediately below, nest cliffs should be restricted from 0.4-0.8 km (0.25-0.5 mi) of the nest during this time (F. Dobler, personal communication). Where falcon nests are already established in proximity to humans there is no need to eliminate trails, picnic grounds, or other facilities except where the birds are evidently disturbed by the human activities. However, further facilities should not be established within 0.4-0.8 km (0.25-0.5 mi) of the eyries (Ellis 1982). Cliff tops above the eyrie should remain undeveloped.

Ellis (1982) suggested that logging be curtailed within 1.6 km (1 mi) of occupied peregrine eyries in Arizona. In Washington, forest practices are reviewed by the Department of Fish and Wildlife when occurring within 0.4 km (0.25 mi) of an eyrie during any season, and within 0.8 km (0.5 mi) of an occupied eyrie during the breeding season (Washington Administrative Code 222-16-080, 1,f).

Eyries occurring within non-forested lands, and those eyries not subjected to forest practices or forest practice rules, should be similarly considered through the development of a site specific peregrine management plan when activities near nests are considered. Male peregrines require perches within sight of the eyrie. Preserve all major perches around the nest and on ridges or plateaus above the nest by retaining all snags and large trees (F. Dobler, personal communication).

Aircraft should not approach closer than 500 m (1,640 ft) above a nest (Fyfe and Olendorff 1976). Closer approaches may cause peregrines to attack planes or may cause a frantic departure from the nest. Falcons startled from the eyrie have been known to damage eggs or nestlings (Nelson 1970).

Powerlines and other wires may be serious hazards to peregrine falcons. Wherever possible, powerlines should be routed away from eyries (Olsen and Olsen 1980).

Applications of pesticides that could potentially affect passerine birds should be avoided around occupied peregrine eyries during the breeding season. Some chemicals such as organochlorines, organophosphates, strychnine, and

carbofuran can impact birds by causing toxicosis or death, or by contaminating their tissues. Other pesticides may be less toxic to birds, but will increase mortality of young passerines by directly reducing their food supply, thus indirectly reducing the prey available to peregrines (Driver 1991). Reduced or contaminated food sources will negatively affect peregrine falcons. Appendix A provides useful contacts to help assess the use of pesticides, herbicides, and their alternatives.

Wetlands, especially intertidal mudflats, estuaries, and coastal marshes, are key feeding areas in winter. Wetlands used regularly by peregrine falcons at any time of the year should receive strict protection from filling, development, or other excessive disturbances that could alter prey abundance. Do not apply pesticides to areas where winter prey species congregate. Lead shot should not be used in waterfowl areas where peregrine falcons feed. Peregrines can tolerate human presence at wintering sites if they are not harassed and if abundant prey remains.

Maintain all large trees and snags in areas where peregrine falcons feed in winter. These perches are important for roosting and for hunting at terrestrial sites. Snags and debris located on mud flats should also be left for winter perching and roosting.

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PERSONAL COMMUNICATIONS

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KEY POINTS

Habitat Requirements

- Peregrine falcons nest in cliffs that are 45 m (150 ft) or more in height.
- Peregrines feed on a variety of smaller birds.
- Hunting territories may extend to a radius of 24 km (15 mi) from nest sites.
- These falcons winter along coastal areas with large shorebird or waterfowl concentrations.

Management Recommendations

- Avoid disturbance during the breeding season (March through June); restrict access to cliff rims where nests are built within 0.8 km (0.5 mi) and within 0.4 km (0.25 mi) of cliff faces.
- Avoid forest practices within 0.8 km (0.5 mi) of eyrie cliffs during the breeding season. If logging does occur, retain all trees on top of the cliff ridge.
- Develop site management plans for Eyries when considering land uses outside of forested environments or for non-forest practice activities.
- Preserve all major perches around nests by retaining all snags and large trees.
- Aircraft should not approach closer than 500 m (1,500 ft) above a nest.
- Route powerlines away from eyries.
- Avoid applying pesticides that affect birds near eyries. Refer to Appendix A for contacts useful in assessing pesticides, herbicides, and their alternatives.
- Avoid applying pesticides to areas where winter prey species congregate.
- Do not use lead shot in peregrine winter feeding areas.
- Maintain large trees and snags as perches in winter peregrine feeding localities.

